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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/825,589	04/03/2001	David Andre	20191-701	3725

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EXAMINER
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STERRETT, JONATHAN G

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/825,589

Applicant(s)

ANDRE ET AL.

Examiner

Jonathan G. Sterrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date April 3, 2001.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Summary*

1. Claims 1-41 are pending in the application.

### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 1-13 are rejected under 35 U.S.C. 101 because the invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

- (1) whether the invention is within the technological arts: and
- (2) whether the invention produces a useful, concrete and tangible result.

4. For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences, for example) and therefore are found to be non-statutory subject matter. For a process claim to pass muster, the recited process must somehow apply, involve, use, or advance the technological arts. In the present case, none of the claims are directed to anything in the technological arts as explained above. Looking at the claims as a whole, nothing in the body of the claims recites any structure or functionality to suggest that a computer performs the recited steps. Additionally, for a claimed

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invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result. In the present case, the claimed invention provides a method for scheduling employees in a complex environment; which is a useful, concrete and tangible result. Although the recited process produces a useful, concrete and tangible result, since the claimed invention, as a whole, is not within the technological arts as explained above, Claims 1-13 are directed to be directed to non-statutory subject matter.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-41 are rejected under 35 U.S.C. 102(b) as being anticipated by ProModel™ Simulation Software as described in the following documents:

Hefline, Deborah; Harrel, Charles R., "Simulation Modelling and Optimization using ProModel™", Proceedings of the 1998 Winter Simulation Conference, 1998, pp.191-197; hereafter referred to as Reference A.

Web.archive.org's webpage of February 21, 1999, describing ProModel™ software, "Capacity Planning using ProModel™ Simulation", hereafter referred to as Reference B.

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Web.archive.org's webpage of April 18, 1999, describing

ProModel™ software, "Product Guide", hereafter referred to as Reference

C.

Regarding Claim 1, ProModel™ discloses:

receiving a plurality of user inputs to a scheduling program (Reference A page 193 paragraph 2.7 line 1-2, software can define custom work and break schedules), including a number of employee designations that each refer to a unique employee (Reference A page 193 paragraph 2.7 line 4-5, resources are assigned to a specific shift schedule), and a number of skill sets that each correspond to one of the employee designations (Reference A page 193 paragraph 2.5 line 3-4, software defines skill sets required as defined in processing logic required by resources to function at specific location in model);

receiving a user input that changes the number of employee designations by indicating at least one changed employee (Reference A page 193 paragraph 2.7 line 1-2, shift schedule can be modified to indicate at least one changed employee);

estimating an effect of the at least one changed employee on effective staffing levels for each of the various tasks (Reference A page 195 paragraph 7 line 13-14, software allows estimating the impact of at least one changed employee on staffing levels for each of tasks in model); and

generating estimated effective staffing levels for each of the various tasks (Reference A page 196 paragraph 10 line 8-10, Simrunner generates effective staffing levels that are optimized for each of the various tasks).

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Regarding Claim 2, ProModel™ discloses wherein the user input that changes the number of employee designations has an effect chosen from a group including adding at least one employee designation and subtracting at least one employee designation (Reference A page 193 paragraph 2.7 line 4-5, shift scheduler includes adding at least one employee designation and subtracting at least one employee designation).

Regarding Claim 3, ProModel™ discloses determining a number of changes that can be made to the schedule during the scheduling process without simulating a proposed schedule, wherein determining includes comparing a predetermined amount of allowed error and a cumulative error that results from estimating (Reference B page 1, paragraph 4 line 6-7, software allows for determining number of changes to be made in a schedule by comparing excess capacity in resources allocated in shift scheduler).

Regarding Claim 4, ProModel™ discloses wherein estimating comprises calculating a total effective work a changed employee will perform (Reference A page 195, paragraph 8 line 1-2, user reports will provide calculation of the total effective work a changed employee will perform);

scaling each task by at least one predetermined factor (Reference A page 195, paragraph 6 line 1-3, run-time interface in software package allows modification of selected parameters, including scaling tasks by at least one predetermined factor); and

adjusting a work distribution for every unique employee other than the changed employee based upon the total effective work the changed employee

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will perform (Reference A page 191, paragraph 5 line 1-2, user-defined distributions can be adjusted based on many different factors, including based on total effective work a changed employee will perform).

Regarding Claim 5, ProModel™ discloses distributing the changed employee's effective work across the plurality of tasks (Reference A page 193, paragraph 2.5 line 2-4, processing logic in software allows for distributing the changed employees effective work across the plurality of tasks).

Regarding Claim 6, ProModel™ discloses wherein the at least one predetermined factor includes a measure of average time to handle a subtask divided by a number of subtasks per time interval (Reference A page 193, paragraph 2.6 line 1-3, tasks can be used to calculate average time to handle a subtask or arrival based on number of subtasks per time interval), and a measure of how much work remains in a task based upon results of a previous simulation (Reference A page 193, paragraph 2.55 line 2-4, previous simulations can determine how much work remains in a task – this can then be used to calculate a predetermined factor for scaling a task).

Regarding Claim 7, ProModel™ discloses wherein calculating a total effective work a changed employee will perform comprises applying a function to: a number of skills of the changed employee; proficiencies of the changed employee; and priorities of the changed employee (Reference A page 194, paragraph 3.6 line 1-2, user-defined distributions can be adjusted to calculate a total effective work a changed employee will perform based on applying a function to the employee's number of skills, proficiencies and priorities).

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Regarding Claim 8, ProModel™ discloses wherein adjusting the work distribution for every unique employee other than the changed employee includes adjusting an effective contribution to each task worked by one of the other unique employees by a factor reflecting that a different amount of work be required for tasks worked by the changed employee (Reference A page 194, paragraph 3.6 line 1-2, user-defined distributions can be adjusted to calculate a distribution for every unique employee other than the changed employee including adjusting effective contribution by a factor reflecting a different amount of work required by changed employee).

Regarding Claim 9, ProModel™ discloses wherein the schedule is for staffing a call center, and wherein the plurality of employees comprises a plurality of agents (Reference C page 1, paragraph 7 line 2, ServiceModel variant of ProModel is specifically designed to handle service applications including staffing for call centers where the plurality of agents would be modeled for scheduling and utilization purposes).

Regarding Claim 10, ProModel™ discloses wherein the schedule is for staffing a call center, wherein the plurality of employees comprises a plurality of agents, a task comprises a call queue, and a subtask comprises a call (Reference C page 1, paragraph 7 line 2, ServiceModel™ variant of ProModel™ is specifically designed to handle service applications including staffing for call centers where the plurality of agents would be modeled for scheduling and utilization purposes including where tasks comprise a call queue and a subtask comprises a call).



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Regarding Claim 11, ProModel™ discloses wherein the varying skill sets include multiple skills for each agent, and wherein each agent may work on multiple call queues in one time period (Reference A page 193, paragraph 2.4 line 8-9, resources can be handled using decision rules that denote multiple skills for each agent and allow each agent to work on multiple queues in one time period).

Regarding Claim 12, ProModel™ discloses further comprising dividing the method such that the method is performed on multiple parallel processors comprising, dividing a schedule into time intervals such that a schedule for each of the time intervals is processed by a different processor (Reference A page 192, paragraph 10 line 1-4, processors made be constructed so that different parts can be developed and merged together, including handling different time periods).

Regarding Claim 13, ProModel™ discloses further comprising dividing the method such that the method is performed on multiple parallel processors comprising, performing the scheduling process on one processor, and performing simulation on multiple different processors (Reference A page 192, paragraph 10 line 1-4, processors made be constructed so that different parts can be developed and merged together, including handling handling scheduling on one model and handling simulation on multiple different processors).

Claims 14-41 recite limitations already addressed by the rejection of Claims 1-13 above, therefore the same rejection applies.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6,381,640 by Beck discloses a method and apparatus for managing workload assignments to agents in call center.

US 5,911,134 by Castonguay discloses a method for planning, scheduling and managing agents in call center.

US 5,134,574 by Beaverstock discloses a performance control apparatus and method in processing plant.

US 5,185,780 by Legget discloses a method for predicting agent requirements in a force management system.

US 5,325,292 by Crockett discloses a scheduling system for a force management system.

US 5,778,060 by Otto discloses a agent network with cooperative control system.

US 6,614,903 by Flockhart discloses a method and apparatus for service processing of communications in a call center.

US 6,058,163 by Pattison discloses a method and system for monitoring call center service representatives.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Sterrett whose telephone number is 703-305-0550. The examiner can normally be reached on 8-6.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 703-305-9643. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JGS 12-16-04

  
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